

ABSTRACT

**SIGNAL PRE-PROCESSING FOR ESTIMATING ATTRIBUTES OF A
TRANSMISSION LINE**

In the process of estimating attributes of a transmission line from
5 reflectometry measurements, small yet important reflections may be
drowned in the immediate reflected signal owing to the mismatch between
the reference impedance with respect to which the 1-port scattering
parameter of the line has been determined and the characteristic impedance
of the line.

10 The major part of the near-end reflections are eliminated by
estimating the characteristic impedance of the line, and by converting the 1-
port scattering parameter of the line from the reference impedance base to
the estimated characteristic impedance base.

However, there is still a residual influence of the near-end
15 reflections. It is then highly necessary to determine a time zone wherein the
residual near-end reflections are enclosed so as their contribution is further
neutralized in the process of estimating attributes of the transmission line.